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BAKING TORTILLAS

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FRONT COVER

Tortilla Baking

Tortillas, such as these Mexican women are baking, are made from ground corn and are a basic part of the diet in many areas of Latin America. (Photo courtesy of the Institute of Inter-American Affairs, Richard F. Greeley.)

BACK COVER

Total Wheat and Wheat Flour Exports from Argentina, Australia, Canada, and U. S. To Latin American Countries

Since World War II, most Latin American countries have been important outlets for United States wheat and wheat flour.

NEWS NOTES

1951 World Food Situation

The 1951 summary of the World Food Situation has been issued by the Office of Foreign Agricultural Relations. The latest in a series of such reports that have been issued annually since 1945, this report summarizes the food supply situation in major geographical areas, reviews production of and trade in the most essential food commodities for 1950-51,

and presents the outlook for winter crops in the Northern Hemisphere.

The summary states that world food production continued to increase in 1950-51 and that on a calorie basis the aggregate output of important food products is expected to total about 2 percent above that of the preceding year and 4 percent above the prewar (1935-39) average. Despite the increased output of food over the past 3 years, the world supply has not reached the point where the per capita consumption rate, in terms of calories, equals the prewar rate due to the increase in the world's population. However, in 1950-51, the per capita consumption rate is expected to reach the highest level since the end of World War II and in many countries will be close to or above prewar. Furthermore, the quality of diets generally has improved in the postwar period, and in some countries it is better than before the war.

Prior to the crisis in Korea, there was growing evidence that the supply of several food products might soon be in excess of effective demand and the trend of prices was pointing downward. The impact of that crisis on the economy of many nations has considerably modified this outlook. The earlier concern about possible surpluses of certain products has virtually disappeared, and world prices of many foods have made marked advances. In many countries, both importing and exporting, consideration now is being given to the problems of promoting production, building adequate reserves of essential food products, controlling prices, and distributing available supplies among nations in order to support current national defense programs.

Credit for photographs is given as follows: p. 48, FAO; p. 54, H. A. Baehr; p. 55, Marjorie J. Day; p. 59, Centro Nacional de Agronomía.

FOREIGN AGRICULTURE

ALICE FRAY NELSON, EDITOR

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Communist Formula For Land Reform*

by JAMES O. HOWARD



Communism is today making a great bid for the support of landless peasants throughout the world, particularly in Asia and the Middle East.

Since the United States is endeavoring to help the underdeveloped areas of the free world solve their problems through democratic means, it is important that we understand how the Communist plan works and what eventually happens to farmers under the Soviet system.

The Communist goal for agriculture is clearly stated in the teachings of Marx and Lenin. The state, they hold, should own all the means of production. The private ownership of land is just as contrary to the principles of communism as is the private ownership of steel mills or railroads. Small farming, they contend, is just as uneconomic as small-scale steel production.

As a practical matter, however, the Communists need popular support, particularly before they gain complete control in a country. In Russia and Eastern Europe popular support means peasant support because the great mass of the people are small peasant farmers. Without peasant support the Communists can draw on only the small segment of industrial workers. Furthermore, increased agricultural production is needed for the ambitious industrialization programs. Thus, in the early years of their regimes, the Communists have faced the problem of how to get ownership of the products of the land without paying for them, or by paying very little, and at the same time win the support of large portions of the farm population.

They have not found a complete answer but they have gone a long way in a three-step formula devel-

oped in Russia and now being applied in Eastern Europe.

The formula, which follows step by step, is this:

1. Divide up the big holdings and give the land to those who work it.
2. Develop so-called cooperative farms.
3. Develop collective farms.

Paralleling these steps is the development of state farms and machine-tractor stations.

The formula is not rigidly followed. In each country there are minor differences to fit local conditions, but the general pattern can be seen in each country of Eastern Europe.

Dividing up the Land

When Communists promise to divide up the land, they are taking advantage of the strong yearning to own a piece of land that has long characterized these sections of the world where much of the land is owned by relatively few and the lot of the peasant is one of lifelong poverty. The Communists see this land hunger as a golden opportunity for winning the friendship of the peasants at the beginning, even though their eventual goal is to abolish all independent farming.

In Russia, peasants were drawn to the camp of Lenin under the slogan of "Peace, land, bread," and they were urged by the Communists to overthrow their landlords and take over the land even before the Bolshevik coup.

History shows that after the Communists are in power the promise of land distribution is carried out. All land in farms larger than a prescribed acreage is confiscated. So is the land of "enemies of the state" such as citizens of certain foreign countries and native leaders with "undesirable" tendencies.

This confiscation, then, gets rid of the large landowners. Middle-sized farmers, however, even those owning 100 or 200 acres in some areas, are not bothered.

This carrying out the promise of land distribution encourages peasant support while the new govern-

* Assistance in preparing this article was given by Lazar Volin, Pauline M. Michael, and Lois Bacon, OFAR. Valuable use was also made of an article by Irvin T. Sanders, University of Kentucky, entitled "Changing Status of the Peasant in Europe," *Annals of the American Academy of Political and Social Science*, Sept. 1950. A more detailed analysis of the Russian collective farm system will be found in the forthcoming monograph, *A Survey of Soviet Russian Agriculture*, by Lazar Volin, scheduled for publication this spring.

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This farm family in Poland is representative of peasants who are affected by the Communist formula for land reform.

ment is repairing its fences and purging the major opposition elements in the country.

State Farms and Machine-Tractor Stations

As stated earlier, a step that begins along with land distribution and continues throughout the other two steps is the creation of state farms and machine-tractor stations.

State farms are used for many purposes. Some are for propagation of improved seed and livestock. Others are used in developing new territory, such as wheat farms in the drier regions of Russia. On state farms the government does the complete managing job and all labor works for wages. Some state farms are confiscated large estates, found to be running so efficiently that the government continues them intact rather than break them up.

Machine-tractor stations are set up to get maximum use of the limited available machinery. A station has a collection of tractors and tractor-drawn equipment, repair shops, and a staff of mechanics and farm specialists. Each station does work for a number of cooperative and collective farms. The few farmers who own tractors and other heavy machinery lose them through confiscation, and private farmers are generally prohibited from owning such equipment. The promised service of machine-tractor stations is one of the important inducements held

out to farmers to join cooperative farms during the early period of Communist rule. Farmers who have had their equipment confiscated have little alternative but to join. Once collectivization is complete, machine-tractor stations become important means of state control of agriculture.

So-Called Cooperative Farms

The Communists use the word "cooperative," as well as the word "democracy," in a way quite different from that of the free world. Real cooperatives—particularly marketing cooperatives—had wide use among farmers of Eastern Europe long before the Communists came to power. Therefore the Communists found "cooperative" a useful term in trying to win peasant support to this first step toward collectivization. But the cooperative farms in Communist countries are controlled by the government. Therefore they have little in common with the cooperatives of the free world.

These controlled cooperatives vary in each country, ranging from loosely organized associations for the plowing of the land to tightly controlled organizations resembling the Russian-type collective.

Under the most common type of cooperatives the farmers pool their land, their work stock, and their tools, retaining small plots on which to raise gardens and a little livestock. In addition to help from the

machine-tractor stations and improved seed from the state farms, the services of trained technical advisers are sometimes available. Profits under this type of cooperative are distributed according to two factors: the amount the farmer puts in, in terms of land, equipment, and stock; and the amount of labor he and his family contribute. Theoretically the farm is run on democratic principles. There is a manager (supposedly elected) who directs the operation with the help of an assembly of all the members. The assembly is supposed to pass on important questions that the cooperative faces. But these farms must conform to state plans, and the Government often interferes with the operation of the farms.

Collective Farms

The principal legal change in switching from a cooperative to a collective farm involves the payment of rent—a practice that is contrary to the principles of communism. On a collective farm the farmer is no longer paid anything for his land, tools, and work stock. He is paid only for his labor. With the rent goes also the farmer's remaining legal claim to his land. It becomes the property of the collective farm.

However, in actual practice, there may be other important differences. In this final stage the pretenses of democracy may in practice be given less attention. Managers are appointed and moved by the Communist Party with only a rubber stamp "election" by the farm families. Meetings of the assembly are seldom called and then only for the purpose of approving decisions made by the manager and his political superiors.

Under the collective farm plan the farmer still maintains ownership of his home and an acre or two of land. On this land he raises vegetables and possibly keeps a cow, a pig, and a little poultry.

The first obligation of a collective farm is to deliver to the state a certain amount of its crops—an amount that is determined before the size of the crop is known. Then the machine-tractor station must be paid. One study made of Russian collectives showed that in the distribution of grain—which is the major crop—the compulsory deliveries and the machine-tractor station payments together took about one-third of the total production. Another third was kept by the collective itself for feeding its livestock, for seed, and for reserves. The remainder of something under a third was distributed among the farm families on the basis of the amount of work each had contributed. Out of this portion the farm-

ers had to feed their families, feed the livestock they kept on the family garden plot, and if possible sell enough in the free market to help in buying any manufactured goods they might need.

A point that endears the collective farm to the Communists is that the farmer takes all the risk and gets what is left after the government has been paid. The study referred to above, for example, covered 3 years. The first year the farmers received 35.9 percent of the grain, the next year 26.9 percent, and the next 22.9 percent.

Formula in Action—USSR

The ways in which the government gets farmers to join cooperatives and collectives can best be seen by viewing the formula in action.

In Russia the collectivization program was virtually completed before World War II. Following the Communist revolution in 1917 the first step—dividing up the land—was carried out in a relatively short time. Then the Government began to encourage farmers to put their land into cooperative or collective farms.

This attempt was not strongly pushed until the late 1920's. By 1928 less than 2 percent of Russian farmers were in cooperative or collective farms.

In 1929 the Government gave up the idea of voluntary action and started an all-out drive to liquidate individual peasant farming and put most of the land into collectives.

Peasants who were a little better off than the average, or who were just average but did not fall in with the Communist line, were dubbed "kulaks," a term that was made as derogatory as "capitalist." All the propaganda organs of the state were turned to the job of making the kulaks a hated class, and the kulaks were eventually liquidated and their land confiscated in favor of collectives. Some were permitted to seek employment in cities or on collective farms, but others were put into concentration camps or deported to remote regions. Even Soviet figures show a sharp drop in farmer numbers in this period.

The sad example of the kulaks helped to persuade other peasants to join collective farms. By 1940 the job was practically complete, with 96.9 percent of all peasant households in collective farms. Since then the main efforts have gone into abolishing the remaining few independent farms and into trying to make the collective farms more efficient.

Today the Russians are carrying on a widespread campaign of combining collective farms into still

larger collectives so as to strengthen the control of the Communist Party.

Another current, though less publicized and more cautious, Russian campaign is to further reduce the size of the peasants' family gardens. On these small remaining islands of free enterprise the peasants often devote a substantial portion of their energies at the expense of work on the collective farms. Though the gardens make up a very small percentage of Russia's total farm land, they account for a sizable percentage of the total production, particularly of dairy products, poultry, and vegetables.

Though outside the scope of this article, it should be noted that the USSR's agricultural program has had some success from the Communist standpoint. Though it has shown complete disregard for human freedom and property rights, it is supplying at a low cost to the state the food, raw materials, and some of the manpower for the ever-growing state-owned industries as well as for the world's largest army. On the other hand, the program has never completely filled the goals set by the Communist Party; if anything, it has lowered Russia's standard of living.

Baltic States

In the Baltic States—Estonia, Latvia, and Lithuania, which the USSR took over in 1940—the land was divided up almost immediately. During the German occupation the program was stopped. Since 1947, however, collectivization has proceeded at a rapid rate and is now practically complete.

Other Eastern European Countries

Greatest activity in the collectivization program today is in the Eastern European countries where Communist governments were established following World War II. Excluding Eastern Germany, which is a separate case, there are seven of these Communist countries—Albania, Bulgaria, Czechoslovakia, Hungary, Poland, Rumania, and Yugoslavia. Since Albania is a small and mountainous country, with little land suitable for cultivation, it need not be considered here. The other six, however, deserve considerable attention since they are primarily agricultural countries and constitute much of the surplus-food-producing area of Europe.

Land reform laws were passed in most of these countries in 1945 (in Poland it was 1944 and Bulgaria, 1946). All follow the same general pattern but there are differences in detail.

In Poland, for example, all holdings above 125 acres in the central area were confiscated and all

over 250 acres in the western districts. Only the land of the Catholic Church was spared—and some of that has since been taken. In addition, all land held by Germans and "traitorous" Poles was confiscated. Some of the other countries did not spare the land of the Catholic Church in their original confiscation.

Actually there were very few large estates to be divided up in most of the Eastern European countries. Active land reform programs had been carried out in most of this area by the independent governments that were in power during the interwar period. Hungary was the principal country that was still characterized by large feudal-type land holdings; such holdings were also typical in the German territory taken over by the Poles and parts of old Poland.

Much of the confiscated land was never given to peasants. Some of it went to state farms. For example, according to the 1950 figures, Poland has put about 10 percent of its arable land in state farms, Czechoslovakia 8.5 percent, Rumania more than 7 percent, and Yugoslavia almost 6 percent. The percentage in the other countries is smaller. Agricultural schools, existing cooperative or collective farms, land reserves, and various units of local government also received a considerable share.

The rest of the confiscated farm land was divided up among the peasants. In this regard, Hungary led the list, distributing 28 percent of its total cultivated land, Czechoslovakia followed with between 15 and 20 percent, Poland, Rumania, and Yugoslavia varied between 10 and 15 percent, and Bulgaria divided up only between 2 and 3 percent.

The number of peasant families that received land is greater than these figures would indicate, since the land was divided into very small pieces in order to reach the maximum number of peasants. In Rumania and Poland, for example, new farms averaged only 12 acres. Farmers having less than 12 acres could get enough to make up the difference. Thus many farmers received only an acre or two. In Bulgaria the new farms were 20 acres and in Hungary they could not exceed 25 acres.

Probably some farms were intentionally made so small that the new owners could not make a decent living and hence would be receptive to the idea of combining their holdings into cooperatives.

Evidence of this intent is seen in Lenin's statement with regard to Russia: "We did not desire to force on the peasants the idea that the equal division of the land was useless, an idea which was alien to them. We considered it better if the toiling peas-

ants themselves as a result of their own experience and their own suffering came to realize that equal division was nonsense."

Referring to the Polish example again, owners of the confiscated land were supposed, under the law, to receive payment for their land. However, many of them fled the country in fear of their lives. For those who remained, inflation and taxes made the amount eventually owed them very small. No payment was intended for property of the church and of foreigners and Polish "traitors." Perhaps a few Poles were eventually paid something, but the record available to the Western World does not show it.

The farmers to whom the land was parceled out, however, paid the state for it. In the future when, according to the formula, they have to turn it over to collective farms they will receive no payment.

Division of the land—the first step in the formula—is now about complete in Eastern Europe. This land distribution has eliminated the landlord class where it existed and has permitted the government to reward the party faithful among the peasants and win a sizable number of new friends among the new

landowning group. As R. Levin, a Soviet writer, put it: "The peasantry of these countries will value highly these regimes which have given them land and will champion them should the reactionaries try again to seize control of the country and take the land away from the peasants."

While the land distribution was going on, machine-tractor stations were being established along with state farms for seed propagation and demonstration of improved farming methods. The exact extent of mechanization to date in many of these countries is not known. The Soviet newspaper *Socialist Agriculture*, published by the Ministry of Agriculture of the USSR, said on January 12, 1951, that machine-tractor stations in Rumania were now servicing 6.2 million acres—more than eight times the area serviced in 1948. If these figures are in terms of sown area, it would represent about one-fourth of such land in Rumania. This does not mean, however, that machine power is doing all the work in those areas "covered." Much of the power is still no doubt provided by livestock. It does indicate, however, that considerable progress is being made.



Chinese farmer seeding his field. The fate of private land ownership in China is one of the questions not yet fully answered by new Communist China.

Second Step

In Eastern Europe, as in Russia, the mere encouragement of cooperative farms met with little success. So, special incentives were used, such as high grain-delivery quotas for independent farmers, with lower ones for the so-called cooperatives, and the offer of power equipment, improved seed, and technical advice to those who would pool their land into cooperatives. In addition, large groups of hand-picked peasants were taken on tours of the more successful Russian collectives and came back singing their praises.

The timing of the drive to force peasants into cooperative farms varied slightly from country to country. Generally it began slowly in 1946-47 with attacks on peasants with larger holdings and gathered momentum in 1948-49. It is still in full swing.

Third Step

In each country the government denied any intention of forcing the issue of collective farms—the third step—until the drive was actually launched. In Hungary, for example, Matyas Rakosi, Deputy Premier and Communist Party leader, said on July 3, 1948, “. . . those persons who proclaim that the Communists wish to put the kolkhoz (collective farm) question on the agenda from one day to the other are trying to create trouble by misleading the peasantry.” Yet on November 29, 5 months later, he stated in a radio broadcast that collective farms must replace individual holdings in Hungary. Throughout Hungary, he said, voices had been heard demanding the introduction of the collective farm system.

A quotation from an article in the Russian magazine, “Soviet State and Law,” November 7, 1950, gives the Soviet thinking on the subject. “With the inspiring examples of the great kolkhoz system of the USSR before them, the Communists and Worker’s Parties of the people’s democracies, in the struggle against the difficulties of the first period in the building of the agricultural producer cooperatives, are clearing the path for the kolkhoz system, ruthlessly smashing its enemies.” Later in the same article he says, “The peasants of the people’s democracies, uniting in producer cooperatives, are beginning to renounce voluntarily the unearned income—ground rent.” This, he says, will transform them “from undeveloped socialist establishments of incomplete form into developed socialist farms. . . .”

How far has the move for collectivization gone in Eastern Europe? The answers have to be pieced together and the figures are seldom completely reliable

or up to date. But according to 1950 figures the approximate percentages of the countries’ farm land in state farms, so-called cooperatives, and collective farms taken together was as follows: Bulgaria 47 percent, Yugoslavia 27 percent, Czechoslovakia 16 percent, and Hungary 10 percent. In Rumania and Poland it appeared to be somewhere between 10 and 15 percent. Though the Rumanian program does not include much of its total land, it seems to have gone the farthest of all in organizing Russian-type collectives.

These figures, it should be remembered, are several months old and progress in collectivization has taken place in some countries since then.

In the Soviet Zone of Germany, where the Communists have moved rather slowly, the land distribution step has been carried through, including the establishment of state farms. Machine-tractor stations have been set up, and cooperative field operations, especially plowing and sowing, are being encouraged, but no drive for collectivization has as yet been launched.

China, North Korea, and Other Countries

China and North Korea are in the first, or land distribution, step of the formula. Although some state farms—the third step—have reportedly been organized in Manchuria, there is no indication yet whether China will launch the second step and, if so, when it will begin. It is interesting to note that within a week of the time the Korean Communist army invaded South Korea, a land reform program was announced. That indicates the value that the Communists place on land distribution in winning friends among the peasants.

Meanwhile the formula is being attempted wherever there are dissatisfied peasants who will follow the promise of a piece of land. “Join us,” they say, “and the land you work will be yours.” That message is being carried to the farmers in Indochina, in Burma, in India, in Iraq, in Guatemala, and in many other countries. That the peasants listen is evident by what happened in China and what is happening now in Indochina. It is significant that in many of these areas the percentage of the land owned by landlords is much higher, and the lot of the peasant much worse, than was the case in Eastern Europe. That is why, as President Truman, Secretary Acheson, and Secretary Brannan have pointed out, the need for democratic solutions of these problems constitutes one of the greatest challenges to the free world today.

Latin American Markets for U. S. Wheat and Dairy Products*

by H. A. BAEHR AND G. H. DAY



United States agriculture has been finding an increasing market for its produce in Latin America as purchasing power in those countries has risen. In the fiscal years 1948-49 and 1949-50, 12 and 11.7 percent, respectively, of United States agricultural exports went to Latin America compared with 8.6 percent in the prewar year, 1939-40, when the total value of such exports was not swollen by economic aid programs. The value of this trade is clearly somewhat greater than before the war, although strictly comparable data are not available. In addition, most agricultural exports to Latin America continue to be purchased with earned dollars.

The trend of these exports will depend on political as well as economic factors. In general, exports will tend to increase as these countries industrialize or specialize in certain crops and to decrease as they pursue efforts toward self-sufficiency in food production, including establishment of high protective tariffs.

Today there are serious limitations on imports of food into Latin America. Government regulations and tariffs, traceable partly to rising nationalism in those countries, have impeded imports with the same curbs that have hampered international trade throughout the world. The expansion of food crop production has been an important objective in many Latin American countries interested in achieving a high degree of self-sufficiency.

Tied in with the trade restrictions have been exchange difficulties that encouraged these countries to buy from nondollar areas whenever possible, although these difficulties have recently eased somewhat.

Low income levels are an additional restriction on food imports. Much of the population in several countries does not share in the consumption of imported commodities. This is partly due to insufficient income, often associated with primitive pro-

duction methods, and partly to poor and expensive transportation. Daily wages of \$1.00 (U.S.) are quite common, and in some areas farm labor receives substantially less. Against this yardstick, bread at 15 cents a pound cannot be regarded as a staple food.

At the same time, the general trend toward specialization and industrialization has favored increased food imports into Latin America in several ways. First is the sharp movement toward urbanization in several countries. Accompanying this movement of people from rural areas to cities is an increased dependence on the commercial market for the staple commodities. Second is the increase in purchasing power that has taken place in Latin America since the beginning of World War II. This increase has been augmented by a further development in oil and mineral resources. Third is the shift in some countries away from food crops and toward export crops, such as cotton in Mexico.

A fourth point favoring international trade by Latin American countries is the fact that those governments, despite their import duties and controls, are aware of the importance of reasonable food prices. And finally, there is a growing appetite in Latin America for wheat products, which traditionally have comprised the principal class of United States agricultural exports to those countries. Also, there is a high consumer demand for some United States dairy products and other important United States export commodities such as rice.

Since the two most important classes of United States agricultural exports to Latin America have been wheat and wheat flour, and dairy products, the United States Department of Agriculture has within the past year conducted studies of the Latin American markets for these two commodities. The dairy study covered the Caribbean area and northern South America and the wheat project included most of Latin America. Both involved first-hand investigations and were carried on under the Research and Marketing Act program.

* The term Latin America here includes the foreign possessions in the Caribbean area. Even though most of these latter are not Latin, their problems of food and trade are sufficiently similar to those of the Latin American republics to warrant their inclusion.

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Wheat and Wheat Flour

The grain study showed that Latin American countries have increased their imports of wheat and flour more than 50 percent over the prewar level of 1934-38. In the fiscal year 1949-50, imports by all Latin American countries totaled almost 91 million bushels of wheat, including flour in terms of wheat, compared with an average of 57 million bushels during the 1934-38 period. Those 1949-50 imports represented about 11 percent of the world imports of wheat and flour. However, this area has special significance for the United States milling industry since it accounts for a substantial share of the United States flour trade.

United States exports of flour to these markets in 1949-50 represented about 34 percent of total United States flour exports. In 1949-50 the United States supplied 16,777,000 bushels of wheat and 16,751,000 bushels equivalent as flour to the Latin American countries and the Caribbean area compared with a 1934-38 average of 1,488,000 bushels of wheat and 10,411,000 equivalent bushels of flour. The high level of imports suggests that the consumer demand for flour may keep pace with expected increases in domestic production, thereby maintaining a substantial market for imported wheat or flour.

Among the factors that influence the consumption and importation of wheat and wheat flour are domestic foodstuffs production, cost of such items in relation to income, the influence of duties and taxes on ultimate cost of a commodity, and the limitations and restrictions placed on imports. These factors vary in importance, but in almost every country the effect has been to reduce total potential consumption of wheat and wheat flour. In many countries, periodic shortages of these commodities resulting from governmental regulations of imports have certainly held consumption below the potential of the market.

The expansion of food crop production, including wheat, is an important objective of the governments of most Latin American countries. In Brazil and Mexico the foundation has been laid for impressive increases in wheat production as a result of improved varieties. In those countries with a history of substantial wheat production, governments offer guaranteed prices to growers as an inducement to maintain and expand production.

In some countries, potential increases of wheat output appear to fall short of the possible wheat



Bake shop in Torreon, Mexico. In general, the baking industry in Mexico is more modernized than in other Latin American countries.

consumption during the next few years. In other areas, competition for soil and water between wheat and other crops suggests a preference for continued and increasing imports of wheat including flour in view of existing facilities for producing other agricultural commodities that are more profitable.

The lack of good internal transportation facilities results in high transportation costs and poor distribution, particularly of perishable commodities. This also contributes to the dependence of these countries on imported foods and explains in part the lack of agricultural expansion.

The trend of population shifts to the cities is marked in several countries. In general, urbanization has stimulated the demand for more wheat and flour and partly accounts for the expanded volume of trade. However, with few exceptions the increase in imports of such commodities has been restricted because of limited foreign exchange, or because of national efforts directed toward greater self-sufficiency in foodstuffs.

The governments of most countries reflect an awareness of the importance of reasonable food prices as is evidenced by attempted price and profit controls. On the other hand, such efforts appear contradicted by the duties and taxes imposed on imports. In some instances, combined duties and taxes are greater than the c.i.f. cost of wheat or flour.

Baking Industry

In general, the technological level of the baking industry is markedly below that in the United States. Buying habits and customer preference for certain bread types make merchandising somewhat more difficult than in the United States. Some of the allied trade firms supplying the baking industry are doing a good educational job on better methods in processing and sanitation, but the baking industry is not well organized into associations as in the United States. As a result, the industry generally is politically ineffective and more prone to fruitless competition with no means for cooperative improvement of standards.

The principal product of the baking industry is the so-called French bread, which is made in all sizes from less than an ounce to 1½ pounds. The one- and two-ounce rolls are sold in surprising volume and reflect a specific type preference as well as limited purchasing power. Other important flour-consuming industries are in the manufacture of products such as spaghetti, cracker and cooky products, and galletas. Of these products, galletas and cracker types are important competitors to the bread baking industry. In general, this group of industries appears to attract more investment capital than does bread baking, with the result that many of the plants are well equipped with modern machinery.



Ice cream vendor in Cuba. A great deal of the frozen dairy foods in Cuba are sold from such carts.

Milling Industry

The Latin American countries have been considered to be traditional markets for United States flour even though the local milling industries in some of the countries have always provided a substantial portion of the flour consumed. The expansion of the milling capacity began prior to the immediate prewar years and was accomplished by the investment of foreign and domestic capital. Further expansion of milling facilities in most countries has been accelerated by current efforts to industrialize. To this end, protective legislation is general, and sometimes government aid is available.

Several of the Latin American republics have milling capacities in excess of the flour consumption of the country in question. These include Bolivia, Brazil, Chile, Colombia, Mexico, Paraguay, Peru, and Uruguay. Flour exports to these countries are increasingly associated with special or emergency purchases, or with special-purpose flours such as biscuit flours.

Some of the other countries are taking steps to develop domestic milling industries and to shift at least a part of their imports from flour to wheat. These countries include Costa Rica, Cuba, Ecuador, and Republic of Panama. Based on 1949-50 exports of flour to these markets and reported plans, a combined drop in flour imports equivalent to about 4.5 million bushels of wheat appears possible in markets that heretofore have been entirely or largely flour markets.

Marketing Trends

Total annual imports of wheat and flour to Latin America have varied widely during the postwar years, with increases over the 1934-38 period average ranging from 50 to 90 percent. During the 1946-48 period, world shortages in food grains tended to disrupt prewar wheat trade patterns, notably between Argentina and its neighboring republics. The world requirements for food and feed also affected the type of exports, flour versus wheat, which resulted in some abnormal distributions of flour to traditional wheat markets.

The percentage increase in total exports is more than double that of the population growth. This disproportion in consumption and population increase for the area as a whole can be ascribed to the operation of several factors, such as shift of population to urban centers and generally greater

purchasing power. However, the chief significance of the disproportion may be that it defines a potential minimum demand for wheat and flour that must continue to be met for the immediate future by imports rather than by increased domestic production of wheat.

As markets for the exports of the area expand during the current emergency, it is reasonable to anticipate that resulting greater national incomes will be reflected in further increased purchases of commodities such as wheat or flour. In some instances, the programs for increased domestic production of wheat and other food grains may be interrupted to take advantage of the current demand for cotton and other commodities. Continuation of the shift of population to urban centers further will increase the potential demand for wheat, flour, and other foodstuffs.

Dairy Products

Caribbean areas are likely to continue to be important markets for some United States dairy products for several years. This appears true for dry whole milk and potentially true for nonfat dry milk. The United States is also likely to have a moderate long-range market there for processed cheddar cheese and cheese foods. Substantial exports of evaporated milk may continue to go to Cuba, Curacao, Panama, and other markets especially during periods of shortage, but some countries, especially Cuba and Mexico, are tending to become self-sufficient in the production of sweetened condensed milk. Some United States butter may continue to move to Venezuela, Panama, and the Canal Zone, but there is increasing competition from Denmark, New Zealand, and the Netherlands. By and large there is still a very low per capita consumption of dairy products in these areas and considerable educational work is still to be done. The United States must also bear in mind the necessity of buying its petroleum, sugar, coffee, and fruits in exchange for the products it hopes to sell.

The long-term outlook in these areas will depend on such things as the ability of United States milk products to compete with the increasing exports of other countries, the development of local demand, the availability of dollar exchange, and the extent of the increase in milk production in these areas. While most United States milk products rank high in consumer preference, much of the market that has been developed in recent years is being lost to

soft-currency countries of Europe and the Southern Hemisphere because of their ability to produce and sell at lower cost. In addition, some of their products (notably butter and cheese) are preferred because of their high, uniform quality.

Most of the dairy products now being exported to Caribbean markets, including the limited amount of nonfat dry milk solids used in industrial foods and reliquefied beverages, are reaching mostly those in middle and upper income groups, generally comprising considerably less than half of the population of these countries. But the competition among products for this market is keen and the possibilities of market expansion are limited. For those who cannot hope to obtain whole milk products in adequate amounts, nonfat dry milk is one product that contains an abundance of food nutrients and that conceivably can fall within the buying power of low income people of the Caribbean area.

The United Nations International Childrens' Emergency Fund, responsible for introducing nonfat dry milk for child feeding and related programs in six of these countries, is assisting in adapting this product to the elemental items in the diets of the people. The contribution that can be made by importing countries can include (a) the use of nonfat dry milk in school lunch and institutional feeding, (b) assistance in the field of public demonstrations, and (c) the cutting of governmental imports and sales charges to a minimum.

Most of the Latin American countries have some natural dairy areas of their own and their governments are justly proud of the progress they have made in increasing the quantity and quality of their milk production. It is a long job, but progress is gradually being made in developing the patience and work necessary for successful dairying. In the meantime, a United States program of making available to Latin American consumers high-quality dairy products at reasonable prices will not only increase their well-being, but will also make them more conscious of the value of milk as a food. The building of better bodies, bones, and teeth—in other words, helping to build healthier citizens—would tend in the long run to increase purchasing power, improve the national economy, and, of course, develop a demand for whole milk products of all types. Such a program will, in the course of time, too, benefit the dairy industries of these countries in that it will create better markets when the industries are in position to meet the demand.



Montevideo Conference

The head of the United States Delegation presents some first-hand observations of the American agricultural meetings.

By SECRETARY of AGRICULTURE CHARLES F. BRANNAN



It is more than 5,000 miles from Washington to Montevideo. But United States delegates who went to the agricultural conference in the Uruguayan capital in December could say, in the well-known words of Bob Hope, "I never left home."

We felt very much at home with the friendly people of the other American Republics. We felt at home in the democratic atmosphere of Uruguay. We felt at home with the prevailing conference belief that a strong agriculture is essential to hemispheric security and that opportunity for the family on the land is an inseparable element of agricultural strength and of democracy itself.

In short, agriculture once again proved to be a great common denominator of interest and solidarity among the American Republics.

The conference we attended was really a two-in-one affair. It was the Fourth Inter-American Conference on Agriculture and the Second Latin American Regional Meeting of the Food and Agriculture Organization of the United Nations. The two sessions brought together at the conference table for 12 days (December 1-12) crop and livestock scientists, economists and statisticians, administrators and specialists—all contributing their special knowledge to the solution of current and long-range problems of agriculture in the Americas.

Underlying the technical discussions (to which the conference was mainly devoted) was an urgency born of understanding that the farming family has a vital role to play in preserving the democratic way

of life. This "why" of technical progress was either stated or felt to be implicit in all the discussions.

It was well stated in the conference Resolution No. 1, and because this resolution cannot be adequately briefed, I quote it here verbatim.

"WHEREAS:

"The American Republics, individually and collectively, have pledged themselves to the preservation and perfecting of democracy as a way of life, as a principle of Government, and as the supreme hope for world peace;

"Democracy is, among other things, a system of farm land tenure in which the cultivator of the land has the opportunity to own the land and to attain economic and social opportunities equal to those enjoyed by the other members of the whole society;

"Families who own the land, or have leased it on equitable terms that give them reasonable profit for their work and other productive investments, have the strongest motives for adopting efficient agricultural practices; and

"Recognition by Governments of the interest and aspirations of rural families for a satisfactory way of life, including the inviolability of individual dignity, will strengthen the traditional inter-American system of individual freedom, and will be a strong bulwark against the regressive and reactionary force known as Communism,

"The Fourth Inter-American Conference on Agriculture "RESOLVES—

"1. To recommend that each American Republic review its policies and programs so as to determine

whether rural families have at their disposal services and facilities, including the services of research and education, credit, aid in the marketing of their output, economic information, and assurances of reasonable prices for their products, which are necessary to and consequent upon the growth of democracy.

"2. That each of these Governments direct its agricultural policy toward achieving welfare of the rural families.

"3. That international organizations develop, encourage, and help the execution of these policies and programs in cooperation with each and every nation and to the greatest extent desired by these nations."

Although this resolution was presented by the United States delegation, it was regarded as a wording of the general sense of the conference—a view borne out by the fact that the resolution was passed unanimously as the first resolution.

The United States delegation went to the conference with no other purpose than to exchange information and views with the representatives of other American countries and interested organizations. In other words, no effort was made to win adherents to a particular program or position. This attitude was based on the belief that general understandings among the governments were already so well established that the conference could well be devoted entirely to technical subjects and current economic problems.

On the whole, this concept of the conference seemed to coincide with the desires and purposes of the other delegations. The discussions and actions of the conference were mainly informative rather than controversial.

However, the delegations made no effort to avoid controversial subjects.

Most differences of opinion were ironed out in commission discussions. The United States, however, could not concur in three resolutions finally passed by the conference. Two of these dealt with foot-and-mouth disease. Of these, one urged that geographic areas instead of political boundaries should be considered in determining disease-free areas. In voting against the resolution, the United States delegation expressed the view that reliance should not be placed upon anything less than complete eradication of the disease. It was pointed out that the United States has overcome the disease, at

great cost, on several occasions, that no outbreak has occurred here since our present strict law was enacted, and that a foot-and-mouth epizootic in the United States as severe as some countries have experienced in recent years would cost the Nation several billions of dollars.

The other resolution dealing with foot-and-mouth disease proposed the establishment of an inter-American commission to review research into the means by which the disease is transmitted, with an eye to determining whether trade restrictions might safely be eased. The United States delegation believed that the facts revealed by research are already well known and that, in any case, existing organizations are adequate.

The third resolution that the United States delegation did not approve dealt with parity prices of agricultural commodities in world trade.

The resolution said, in effect, that prices of agricultural commodities in international trade should reflect parity to producers and that such prices should be "formally recognized" in international negotiations. The United States agrees, of course, with this principle or objective. However, our delegation saw implications in the resolution that at least required further study, not merely by the delegation but by many other individuals, groups, and agencies.

The resolution implies, for example, that the determination of an international parity or equitable price for a commodity is a feasible procedure. In view of the lack of accurate and comparable statis-



The Ministers of Agriculture for Brazil, Paraguay, and Argentina (left to right) pictured with Secretary Brannan at the Conference.



On his way to the Conference, Secretary Brannan visited the El Salvador-U. S. cooperative agricultural station. He is shown here discussing the station's sorghum development work.

tics, in view of distortions in price relationships arising from various kinds of foreign trade controls, and in view of widely differing conditions among countries with respect to their international terms of trade and domestic agricultural policies, there is certainly room for doubt that any generally acceptable and applicable international standard could be readily developed at the present time. Also, the declaration that some particular price standard should be "formally recognized" in international negotiations raised questions as to the compatibility of such a sweeping declaration with our general policy of promoting a large volume of multilateral trade based on commercial considerations, with a minimum of price fixing. Difficulties of this sort, which could not be resolved without extensive study, militated against United States concurrence in the resolution.

Aside from the resolutions—45 in all—the conference devoted itself to the exchange of information, mainly through the presentation and discussion of technical papers.

The conference was organized into five commis-

sions, and the FAO work was done in three committees:

Commissions: I, Protection and Utilization of Water; II, Land Use and Crop Improvement; III, Development of Livestock Raising; IV, Processing, Preservation and Distribution of Farm Products; V, Problems of Small Farm and Livestock Units—Analysis of Technical Assistance Needs—etc.

FAO Committee A. Discussed FAO document "Current Developments of and Prospects for Agriculture in Latin America." Later joined with Committee B.

FAO Committee B. Discussed principally methods of implementing agricultural policy, including research, extension, increasing productivity of labor, price policies, and other matters.

FAO Committee C. Discussed improvement of agricultural units, improvement of extension services, and national commodity reserves.

For many of us the conference was significant not only on its own account but also as a means of furthering our understanding of neighboring countries and people.

We met, both in meetings and in personal visits, many of the best informed agricultural officials and specialists of 17 Latin American countries plus observers from Canada, the United Kingdom, France, the Netherlands, the Holy See, and various interested organizations. We formed many warm friendships.

We saw for ourselves many aspects of agriculture in this hemisphere, since we visited ranches and farms wherever possible. Some of us also saw some of the agricultural research work in which the United States and Latin American countries are cooperatively engaged. I shall never forget the day I spent in El Salvador on my way to the conference. The experiment station of that small Republic is truly an eye-opener, and our cooperation with it on items of mutual interest, such as fiber crops, is bringing promising results. It was also my pleasure in Brazil to see some of the experimental work being carried on by that country.

While it is true that one who travels to new places must be careful not to assume that all of his impressions are accurate indicators of general conditions, I feel very sure of this one impression: In all the Americas there is a great surge of agricultural progress. Agriculture is marching ahead on three fronts—research, education, and economic opportunity. The Americas are striving for a stronger agriculture, recognizing that a strong agriculture is a bulwark against aggression—a necessity for human advancement and peace.

Thailand's Lac Industry

by GRAHAM S. QUATE



Thai farmers have an uncommon cash crop in lac, the hardest natural gum known. It is a vital ingredient in some varnishes and polishes, in certain kinds of printer's ink, and in the manufacture of electrical equipment. In connection with the latter, it is of some importance as a strategic material.

Lac is a resinous substance secreted by a small insect which, for usefulness, ranks next to the honey bee and the silk worm. The most common species of the lac insect, and the one used in the production of commercial lac products, is known as *Laccifer lacca*.

Lac production is an ancient and important industry in the Orient, where India is the largest producer. Each year, the Kingdom of Thailand sends to the United States about \$3 million worth of lac products, about 80 percent of which are in a semifinished form known as seed-lac, the remainder consisting principally of the familiar flaky varnish base called shellac. Another \$1.5 million worth of lac is sent to

India. Formerly Thailand's entire lac crop was exported in crude form to India for processing. Since the end of World War II, however, a number of lac-processing plants have been established within the country and now the United States purchases part of its lac directly from Thailand.

In producing lac, the Thai farmer begins by gathering a quantity of small twigs or limbs that are infested with the lac insect. This is known as brood lac. He attaches it to succulent parts of selected trees, thus artificially infecting the host plant. The host tree most commonly used in Thailand is the raintree. As it grows in Thailand, the raintree is especially suited to the production of lac because of its vigor, a quality that enables it to recover from the heavy pruning to which it is subjected at harvesttime.

Lac insects apparently do not prosper under wild conditions. In Thailand, they are grown on trees that are nearly always located near a dwelling. There is some systematic planting of host trees, but the lac producer more often uses trees that have been planted for shade, as boundary markers, or as roadside ornamentals. The Thai farmer seldom prunes his lac trees in order to encourage the growth of fresh shoots for the production of new crops but depends on harvesting operations for the creation of suitable growth conditions.

In the lac-producing districts of Thailand the life cycle of the lac insect is completed twice each year. It is difficult to describe exactly the insect's swarming habits as these appear to vary by localities, apparently because of climatic factors. One lac producer in the Province of Chiangrai states that his trees are inoculated or infested in February or March shortly after the cool season ends or when average daily temperatures are consistently high. At this time, yellowish spots begin to appear on the shell-like covering of the lac insects, which indicates that swarming is about to occur. The problem of the lac grower is to predict swarming time as exactly as possible. If he gathers the brood lac too soon the insects may be destroyed in the drying-out process that follows. If his timing has been correct, a new generation of lac insects will begin to emerge shortly after the infected



A raintree, in Thailand, where the lac insect customarily lives. Workers harvest the lac by climbing the trees and removing the infested branches.

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twigs have been attached to fresh growths on host trees, which have been given 1 or 2 years of rest.

Upon emergence the young insects crawl about looking for feeding places. They are able to travel for considerable distances but must settle down before the end of the second day or perish. When they have found a smooth surface on the new growth, they attach themselves to the tender bark and remain in this position, existing on the juices of the host plant. It is the habit of these insects to settle down in dense clusters and almost immediately thereafter to begin the secretion of a varnishlike substance, which runs together to form a continuous shell over the crowded colony.

After a few weeks of growth the male insects emerge, fertilize the females, and die. The females remain within their shells, continue the secretion of lac, eventually produce eggs, and finally shrivel up to make room for their larvae. In due course of time the cell covering breaks open and the young insects emerge, thus completing the life cycle.

The first crop of lac produced by the artificially transplanted brood lac is not harvested at once but is left on the trees as a brood colony from which the insects may swarm naturally, thus causing a thorough infestation of the host plant. The lac that is produced by this greatly enlarged second generation is harvested, along with the empty shells of the brood colony, and constitutes the cash crop of the lac farmer.

In the lac-producing Provinces—Chiengrai, Denchai, Lampong, and Ubon—the lac harvest begins about the first of November and is usually completed before the end of the month. The usual Thai harvesting practice is to send one man into the lac-infested host tree where he lops off the larger branches. Other workers gather about the felled limbs and remove the small lac-incrusted twigs and shoots. The harvested lac is collected at some central location on the farm where it is left in the sun to dry partly. Workers then remove as much as possible of the woody stems to which lac is attached. If this preliminary cleaning process is properly performed the resulting product may be sold as “cleaned” stick-lac. If it contains less than 20 percent by weight of insoluble substances, it is suitable for exportation as stick-lac without any further processing. However, it is now the general practice to convert the greater part of all Thai stick-lac into seed-lac before shipping it abroad.

During the height of the 1950 lac harvest the Bangkok market was quoting 10½¢ (U. S. currency)



Colonies of lac insects form incrustations on branches.

per pound for cleaned stick-lac. In the Provinces of Lampong and Chiengrai the producers were receiving about 9¢ per pound, this smaller price being due to transportation costs from the lac-producing districts to Bangkok. Since the average Thai lac farmer produces only a very small quantity of stick-lac, it is necessary that he sell his crop to local processing plants or to middlemen who ship accumulated stocks to Bangkok where the stick-lac is exported either with or without further processing.



Lac incrustations in this crude form are called stick-lac and comprise a cash crop for Thai farmers.



Stick-lac after being cleaned and ground is called seed-lac. This picture shows a drying operation.

There are approximately 30 lac-processing plants in Thailand; some of these are very small and all but 12 are located in Bangkok. It is not possible to give the exact number of processing plants in operation at any given time as business mortality and turnover in this type of industry is quite high. Some exporters operate their own processing plants, and it is generally in these establishments that new processing techniques are developed. However, the smaller processors are quick to adopt up-to-date methods, and it has been suggested that governmental organizations attempt to assist them in technical matters.

The process of converting stick-lac into seed-lac is a rather simple one, although strict attention must be given to certain details in order to insure a product of standard quality. The quality of seed-lac is judged according to specific trade standards on moisture content; presence of insoluble matter; "life," or resistance to heat; "flow," or fluidity when heated; and bleachability, or bleach as the trade likes to call it.

About 18 tons of stick-lac are required to produce 10 tons of seed-lac. However, certain waste materials are recovered that may be used for the production of shellac.

The conversion of stick-lac into seed-lac begins with the drying of the crude product purchased from the farmer. Generally the fresh stick-lac is spread out on concrete floors to dry in the sun, although it has been found that it should be protected against excessive light and heat. After drying, the stick-lac goes

to a power-driven crusher from which it emerges in small angular pellets. This granular material is then passed over mechanically operated screens for grading as to size, with the larger lumps being reground. At this stage of the process the broken lac is cleaned again, by hand workers equipped with shallow, flat-bottomed baskets to toss the granulated material about with a rotary motion, which causes a concentration of the light woody particles and facilitates their removal.

The lac is now ready for the extraction of its dye content. This is accomplished by a thorough washing. Some processors favor the Indian method of washing, which involves the placing of the crushed lac in small vats where it is trampled by the workers. In this manner each grain of lac is scrubbed against the walls and floors of the vat to insure exposure and thorough washing. Water is continually added to the vat and the overflow is at first highly colored with the dark-red dye of the lac. After several changes the waste water is free of color and the washing is completed. In some plants the vats are agitated by mechanical means to help in the washing process.

Before lac resins were used for industrial purposes, lac was valuable principally for the dye material it contained. Then, it had a secondary value as coloring material until synthetic dyes were developed. Now, however, this dye is a waste product and must be disposed of in such a manner as to avoid the creation of nuisances in the neighborhood of the processing plant. It is believed that the dyed water might be useful as fertilizer, but no attempts have been made to utilize it as such.

Somewhat complicated tests are used by United States purchasers of seed-lac to determine the extent to which the processor has succeeded in removing colored substances from his lac. This bleach factor is not new to the trade, but only recently have Thai producers been asked to make guarantees respecting the "bleach" of their product. Actually, this new quality factor has been established as a shipping requirement in order to insure premium payments for producers who have taken special pains to remove dyes and are willing to guarantee the results.

After washing, the granulated lac must be thoroughly dried. In some plants, drying is begun by passing the product through centrifuge machines, a process that also aids in further eliminating dye materials. Sometimes the drying is accomplished on concrete floors over which is spread a light canopy of cloth or other materials, to protect the lac from

overexposure to heat and light. The seed-lac is spread in a thin layer on the drying floor and is stirred frequently by hand. In some plants the moist seed-lac is laid on small frames covered with canvas or matting. These frames are of such a size that workers may carry them to enclosed shelters whenever necessary because of storms or to protect the material from dew. Thorough drying enables shippers to guarantee a maximum moisture content of 2 percent, which is the buyers' requirement for all seed-lac sold on United States markets.

After drying, the seed-lac is again hand sorted. Again the panning technique, which was previously described, is used to insure the complete removal of foreign materials. The cleaned lac is then passed through a small fanning mill or winnowing machine to remove dust and very small grains. This fine material is used for the manufacture of shellac. Small bits of usable lac are also recovered from the woody particles accumulated as a result of the several hand sorting processes for use in making seed-lac.

Although the production of lac is confined to limited areas in northern Thailand, it is of obvious economic importance to this small nation. Annual shipments of stick-lac and seed-lac amount to more than 8,000 tons and produce nearly \$4 million in foreign exchange.



U. S. seed-lac buyer (Gordon Browne) discusses a sample of stick-lac with a Thai processor (Nai Noi Khomphon).

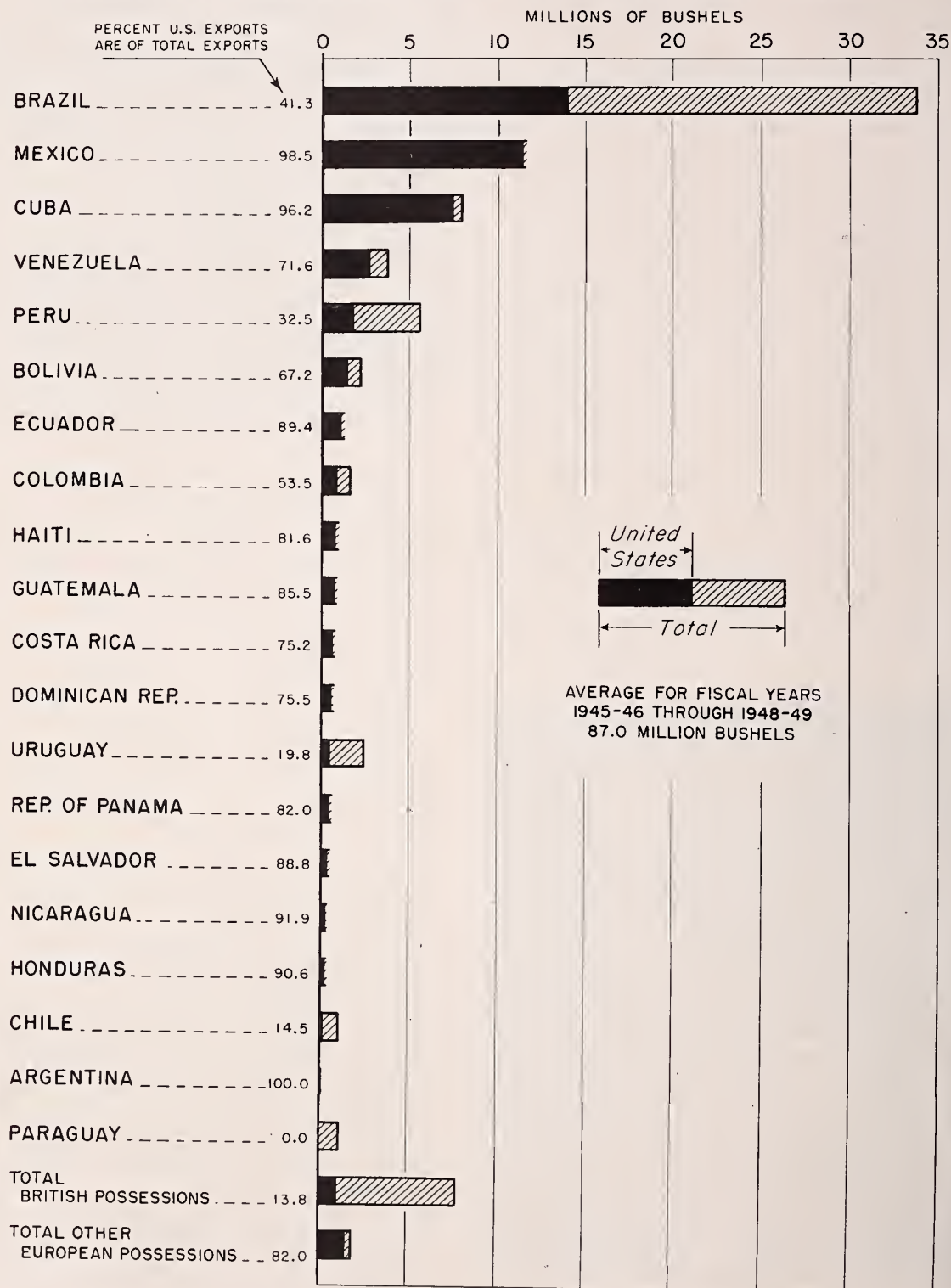
During 1950, Thai seed-lac of average quality has sold for around \$500 per ton f.o.b. New York. From the standpoint of the producers, this appears to be a satisfactory price level. Lower prices would discourage Thai farmers in their efforts to maintain production; higher prices might increase competition from synthetic materials and so eventually result in market upsets that are generally detrimental to the local industry.

There is considerable speculation as to the future of the lac industry in Thailand. There are men still living who remember how the lac insect was once valued as the source of a valuable dyestuff. They remember, too, that cochineal dyes, also produced by a small insect, were once an important article of commerce and that this industry has been entirely abandoned because of synthetic dye substitutes. The continued exploitation of *Laccifer lacca* has been possible only because, in addition to the coloring matter it contains, it secretes a resinous substance that is useful for a variety of industrial purposes. But in spite of its unusual qualities some substitutes for lac have already been developed. For example, lac once played an important part in the manufacturing of phonograph records but is no longer needed for that purpose. On the other hand, it appears that some synthetic lac-like compositions are improved by the addition of natural lac. Thus, it is possible that as the use of certain synthetic materials increases, there will be a corresponding increase in the demand for natural lac.



Seed-lac is further refined through a panning process.

TOTAL WHEAT AND WHEAT FLOUR EXPORTS FROM ARGENTINA, AUSTRALIA, CANADA, AND U.S. TO LATIN AMERICAN COUNTRIES



In 1949-50, total wheat and flour exports to Latin America from these four exporters were about 90.9 million bushels, but the United States share of those exports dropped to about 37 percent, or 33.5 million bushels. Most of this decline is attributable to the resumption of the prewar pattern of trade between Brazil and Argentina. (Flour and grain exports, in terms of bushels of grain.)